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STATISTICAL BULLETIN
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HOMICIDE AND THE LAW

During 1925, in Continental United States about 10,100 homicides occurred. This death-toll is more than *fourteen times* the figure which would have prevailed if the experience of England and Wales had occurred in this country! The City of Chicago alone, with a population close to the 3,000,000 mark, had more than twice the number of homicides in one recent year than occurred in the whole of England and Wales with its population of nearly 40,000,000! The homicide rate for the United States is six times that for Canada, our neighbor on the North!

No one can face complacently these startling and disparaging figures. The American public ought to know why and under what circumstances so many thousands of lives are sacrificed to the homicidal impulse and what is being done to effect prompt and just disposition of the cases presented to the prosecuting attorneys of our counties. On the first point, a number of efforts are under way by various agencies and commissions to study the circumstances which lead to so many crimes against the security of persons. On the second point, the Metropolitan Life Insurance Company has endeavored to discover what police and judicial action follows homicide cases among its policyholders.

Facts are now available for the subsequent action in 611 homicides among policyholders of this Company in the years 1922 to 1924. At least one year was allowed to elapse before inquiries were sent to prosecuting attorneys of counties in the United States. In the first place, 86 of these cases were justifiable homicides, where persons were killed by officers of the law while resisting arrest or while in the act of committing crime. This left 525 assailants answerable to the law for taking human life. It developed that 54 assailants committed suicide and 13 died before arraignment. Of the remaining 458 assailants, 84, or 18.3 per cent., had not been apprehended within one year after the

crime had been committed! The 374 cases actually apprehended show an interesting after-history at the hands of the law. There were released by magistrates or grand juries, 108 persons against whom no case could be made, and eight were declared insane. There were actually brought to trial 258 cases or 56.3 per cent. out of an original group of 458 living assailants. In 62 cases the defendants were acquitted, and nine cases were still pending one year after the commission of the crime! A verdict of "guilty" was rendered in 187 cases, of which 170 were sentenced to prison for terms of varying length, eight cases were sentenced to death (seven executed and one case on appeal) and *nine* were released, either on suspended sentence or by being fined!

BUILDING THE HUMAN MACHINE

Residual Expenditures

In continuation of our statistical survey of the items entering into the cost of bringing a human being to maturity (age 18), we must now consider the cost of education, expenditures for health and recreation, for insurance, and for sundries.

Statistics for the State of New York* show that it costs $107 a year in the public school system to put a child through the elementary school grades. In the secondary schools, the cost is $200 a year. With eight years in the elementary schools, and four in the secondary schools, the cost would amount to $1,656. If a year's attendance at kindergarten is added, at a cost of approximately $100, we may put the total cost of a complete grammar and high school education in the public schools at $1,750. Separate figures for the elementary and high school grades for the United States as a whole are not available. But, from figures for all grades, it is clear that the general average is below that of New York.

But, since not all children complete both grammar and high school, it is necessary to calculate the cost of such education as the average child actually obtains. The New York State law requires that, in the larger cities, children between 7 and 14 attend the full session of a day school. The minimum time of schooling is, in the majority of cases, therefore, seven years. Actually, the period is longer because only those children may obtain working papers at 14 who have graduated from elementary school. Even fifteen-year old children must have completed the sixth year of the elementary school before they can obtain employment certificates. As a result, it was found that fully 80 per cent. of the children in the State, 14 and 15

*Computations from data for 1921, based on average daily attendance in elementary and secondary schools obtained from the Educational Finance Inquiry Commission, under the auspices of the American Council on Education, Washington, D. C.

years old, were attending school in 1920. It would appear, for these reasons, that the average years of schooling is above the minimum of seven years and approximates about nine years, of which we assume that one is in the high schools. Such schooling, on the basis of the annual estimates made above, will cost close to *eleven hundred dollars*, and this, rather than the cost of the full curriculum given above, represents the typical expenditure for school education in New York State. For the country as a whole, the figure would undoubtedly be lower, in view of the less stringent compulsory education laws of certain states.

One point demands special mention in this discussion of the cost of education. Unlike most of the other items that we have considered hitherto, the expenditure for education does not figure directly in the family budget. According to the system of public education established among us, the parent we are considering contributes comparatively little actual money specifically toward the education of his children. He may not even pay direct taxes, though, of course, indirectly, he carries a share of the tax burdens in the rent he pays and in every purchase that he makes. Just how much each parent individually contributes toward the education of his children cannot, therefore, be determined even approximately. But though the item "education" may not appear explicitly in the family budget, it is, nevertheless, a matter of great interest to know something regarding the cost of so superlatively important an element in the making of a man. It is with this in view that the estimates here collected are presented.

There are, however, a few minor items of expenditure for education that are commonly met directly out of the parents' resources, namely, books, magazines, stationery, and incidentals. These may be estimated at about $50 in the course of the school years.

Important in fact, but not very large in amount, is the expenditure for the maintenance of health. Statistics of family budgets* show that, in the $2,100 to $2,500 income class, this item totals about $80 per annum per family. This expenditure is divided as follows:

Physician, surgeon, oculist	$37.50
Medicine	11.30
Nurse	3.00
Hospital	8.00
Dentist	15.00
Eyeglasses	3.40
TOTAL	$78.20

*See U. S. Bureau of Labor Statistics, *Bulletin No. 357.*

A very similar figure for the total expenditure for health items was obtained in a study conducted a few years ago by the Metropolitan Life Insurance Company among the families of its employees in the Home Office. These latter families comprised an unusually high proportion of adults and, therefore, in making our expense distribution among the several members of the family, we were compelled to adopt the age ratios of the cost of health maintenance for children from another source. A very reasonable estimate is that given by E. L. KIRKPATRICK in *Bulletin No. 423*, issued by the Cornell University Agriculture Experiment Station. According to this scale of health expenditure units, a child up to age 6 is equivalent to 1.3 adult units, from age 6 to 14, it represents one adult unit, and from 15 to 18, it corresponds to 0.7 units. Thus, our typical family of father, mother and three children of ages 3, 8 and 12 make a total of 5.3 health cost units. Since the cost of the family expenditure is $80 a year, the cost per unit is about $15. From birth to age 18, a child will represent 18.9 units ($6 \times 1.3 + 9 \times 1 + 3 \times 0.7 = 18.9$ units); the cost for health maintenance will, therefore, be 15 x 18.9 or about $284.

In dealing with average figures, a certain caution must always be observed. This is particularly true with regard to expenditures for health, which, of all items in the family budget, are subject to the widest and most extreme fluctuations. In a favorable year, there may be very little expense for doctor's bills and the like. In another year, one or more costly operations with hospital internment, or, it may be, some other institutional treatment, may positively drain the family exchequer. This fact must unfortunately be taken into account in any application of the average figures to a particular instance.

There are still a number of miscellaneous items to consider. The first is recreation, including amusements—movies and theater, excursions, vacations and travel. This absorbs about $43 a year of the family's $2,500 income. The actual share of the growing child in this total amount it is difficult, if not impossible, to determine. The best opinion is to charge each child with one-sixth of the expenditure during the entire period of growth. The yearly charge would then be a little over $7 per annum, or a total of $130 in the course of eighteen years.

Another item is insurance, and under this head only that part of the insurance taken out on the life of a child, which goes to meet funeral expenses in case of its death, is properly chargeable against the cost of raising the surviving children. Any insurance over and

above this is of the nature of a saving, and is not chargeable as cost, any more than is money put aside in the savings bank. An average annual premium of $3, whether paid to an insurance company or regarded as a reserve set aside to meet the contingency, would be amply sufficient, during the years of childhood up to age 18, to cover this item. This would mean a total of $54 for the period. As a first approximation, we may accept this as the cost to be charged under this head, per child raised to the eighteenth year.

The remaining incidentals include cleaning and toilet supplies, telephone and moving expenses, laundry and sundries, and a host of other items not necessary to mention. These expenses reach a sum of $190 a year in our family. One-sixth of this, during the eighteen-year period, would amount to $570.

We have thus arrived finally at the following itemized statement for the cost of rearing a child to the age of 18 years:

1. Cost of being born	$250
2. Food	2,500
3. Clothing and shelter	3,400
4. Education, minor items met by the individual family purse	50
5. Education, major items, cost of schooling provided by the community—$1,100:	
6. Health	284
7. Recreation	130
8. Insurance	54
9. Sundries	570
TOTAL, (exclusive of Item 5)	$7,238

In round numbers, therefore, we may put the total cost of raising a child to age eighteen, in accordance with the data here collected, at $7,200. In this summary figure no distinction has been made for sex because the difference in the amounts for girls and boys is relatively small. Our figure is the amount which we believe to be a fair representation of the money expended by a family of the $2,500 income class in raising a child through its minority. It then begins in most cases to become partially, if not entirely, self-supporting, and a contributor economically to the family and to the community. From this point, our evaluation of the human life will necessarily include not only negative items of expenditure, but, for the first time, positive items of income, and these we shall consider in future contributions.

MORTALITY EXPERIENCE OF THE FIRST QUARTER OF 1926

The health record of the industrial populations of the United States and Canada was by no means as favorable during the first quarter of 1926 as for the corresponding period of either 1925 or 1924. This is indicated by the mortality record among more than 17,000,000 people who are policyholders in the Industrial Department of the Metropolitan Life Insurance Company. The deathrate for this important cross-section of the population of the two countries, was 10.6 per 1,000, as compared with 10.1 during the same months of 1925.

It should be borne in mind, nevertheless, that this rate of 10.6 is not really a high figure for the winter season. It is better than the average of several years back. Obviously, then, the health situation among American and Canadian wage-earners and their families is by no means bad at this time; it is simply not as good as it has been in the most recent years.

The relatively high rate for the quarter was due, very largely, to the sharp rise observed during the month of March, resulting from a widespread recrudescence of influenza and pneumonia. Among the white Industrial policyholders the influenza deathrate rose 28.7 per cent., and the pneumonia rate, 13.6 per cent., as compared with the first three months of last year; and among the insured colored persons, considerable increases were also experienced in the mortality from these conditions. As usually happens during influenza outbreaks, the deathrate for the "degenerative" diseases also rose. The mortality from puerperal diseases, however, actually showed a decline from last year's figure among both white and colored insured women. This is unusual during above-average prevalence of influenza which in prior outbreaks has proved fatal to large numbers of pregnant women.

A marked increase in the deathrate for measles during the winter of 1926 and a considerable rise in the whooping cough rate were also factors in increasing the general deathrate for this insured group.

As noted above, the chief "degenerative" diseases—organic heart disease, cerebral hemorrhage, and chronic nephritis—registered higher deathrates than during the winter of 1925.

Aside from the items noted above, and the considerable increase for alcoholism referred to on page 7, there were no particularly unfavorable developments in the health record for the first quarter of 1926.

Some of the data for the quarter are very encouraging. Most important among the good features is another splendid showing, among the white policyholders, for tuberculosis. Following the improvement registered last year, the record now shows a further drop of seven per cent. over the first quarter of 1925.

Second only to the excellent record for tuberculosis is another pronounced drop in the diphtheria rate. That 1926 has ushered in another decline in the mortality from this most dreaded scourge of childhood will be most encouraging news to the large number of public health officials who have been extending the use of toxin-antitoxin as a prophylactic measure, and of the antitoxin treatment for diphtheria when once contracted. If the decline in the diphtheria deathrate continues throughout 1926, credit will be due to the growing appreciation of the importance of immunization against the disease and of the early administration of antitoxin as safeguards to the lives of the children.

During the first quarter of this year, 168 deaths from alcoholism were recorded among the Metropolitan Life Insurance Company's Industrial policyholders. This is equivalent to a deathrate of 3.9 per 100,000, which is the highest registered for this disease during any three months' period since 1917. These figures may be compared with 121 deaths and a deathrate of 3.0 during the same quarter of last year. This represents a rise of 30 per cent. For the first three months of 1924, the deathrate was 2.9.

Deaths from cirrhosis of the liver, which is closely associated with alcoholism, numbered 314, with a rate of 7.3 per 100,000. This may be compared with 278 deaths and a rate of 6.9 for the corresponding quarter of 1925. For the same three months of 1924, deaths numbered 241 and the rate was 6.4.

Since January 1, 1922, a period of four years and three months, 1,825 deaths were charged to alcoholism among Metropolitan Industrial policyholders. Of these 1,804 occurred among approximately sixteen million persons residing in the United States, and only 21 among approximately one million Canadians insured in the Company's Industrial Department.

There were five deaths from wood and denatured alcohol poisoning, which is the same number recorded during the first quarter of last year.

Death Rates per 100,000 Persons Exposed. First Quarters of 1924, 1925 and 1926 Compared. By Color for Principal Causes of Death. Industrial Department.

Metropolitan Life Insurance Company. Premium Paying Business.

CAUSE OF DEATH	DEATHRATES PER 100,000 PERSONS EXPOSED					
	WHITE			COLORED		
	Jan.-March, 1926	Jan.-March, 1925	Jan. March, 1924	Jan.-March, 1926	Jan.-March, 1925	Jan.-March, 1924
ALL CAUSES OF DEATH	967.3	928.6	929.8	1724.2	1626.1	1553.7
Typhoid fever	2.6	2.9	2.4	5.6	5.6	4.1
Measles	16.3	3.0	14.1	10.0	1.3	5.6
Scarlet fever	5.0	6.0	6.8	1.3	.8	.4
Whooping cough	9.5	6.3	7.4	10.8	10.9	11.3
Diphtheria and croup	10.7	14.4	20.6	5.8	5.8	6.1
Influenza	42.6	33.1	21.8	94.8	76.5	59.1
Meningococcus meningitis	.7	.9	.9	.4	1.0	1.5
Tuberculosis—all forms	84.2	90.5	94.3	237.8	230.8	241.8
Tuberculosis of respiratory systen	74.7	79.7	84.1	208.3	206.2	222.0
Tuberculosis of the meninges, etc	4.1	5.0	5.6	9.4	7.3	6.7
Other forms of tuberculosis	5.3	5.7	4.5	20.0	17.3	13.0
Cancer	72.5	72.5	71.3	69.6	70.6	75.4
Diabetes	19.0	18.2	17.0	16.2	19.2	13.9
Cerebral hemorrhage, apoplexy	57.5	56.5	63.3	111.8	98.8	103.6
Organic diseases of the heart	146.1	135.9	126.9	223.4	235.4	207.7
Total respiratory diseases	151.6	136.5	136.1	318.8	265.5	258.5
Bronchitis	6.5	7.1	6.7	10.2	10.9	8.7
Bronchopneumonia	60.1	52.0	56.6	112.4	79.8	86.0
Pneumonia—lobar and undefine	76.6	68.3	63.2	181.7	157.1	151.4
Other diseases of respiratory system	8.4	9.1	9.6	14.5	17.8	12.4
Diarrhea and enteritis	16.6	17.6	19.5	18.3	23.6	14.8
Under 2 years	14.2	14.7	16.3	13.3	16.5	9.3
2 years and over	2.3	2.9	3.2	5.0	7.1	5.4
Acute nephritis	4.8	5.1	5.5	16.2	16.1	16.5
Chronic nephritis	74.5	70.7	68.0	143.2	131.4	115.4
Total puerperal state	15.1	17.2	17.8	24.9	26.5	28.9
Puerperal septicemia	6.0	6.7	7.1	10.6	11.9	11.7
Puerperal albuminuria and convulsions	3.5	3.5	4.1	6.9	4.4	7.6
Other diseases of puerperal state	5.7	7.0	6.5	7.3	10.2	9.6
Total external causes	62.9	66.7	65.6	116.2	103.6	105.1
Suicides	7.3	7.5	6.6	4.4	4.2	3.6
Homicides	2.7	3.3	2.5	33.1	31.8	32.6
Accidental and unspec. violence	53.0	55.8	56.4	78.6	67.7	69.1
Accidental drowning	2.5	1.6	3.3	1.9	2.1	2.2
Automobile accidents	12.0	11.9	11.8	11.4	9.0	9.3
All other and ill-defined causes of death	175.2	174.9	170.6	299.1	302.5	283.9

HEALTH RECORD FOR MARCH, 1926

The March health record of the industrial populations of the United States and Canada was unsatisfactory in many respects. In the first place, the deathrate, 12.1 per 1,000, is not only higher than for either of the two preceding months of 1926 but for any month since March, 1923. As compared with February, the rate increased 23.5 per cent.; and it was 15.2 per cent. higher than for March a year ago.

The high deathrate for March was due, almost entirely, to the prevalence of influenza and pneumonia. Deaths from the former increased from 493 in February to 1,128 in March, and the rate from 37.0 per 100,000 to 76.1. This was accompanied by a rise in the pneumonia deathrate from 137.6 in February to 194.0 in March. While, as noted in the March BULLETIN, "the present attack is not a major one as measured by the epidemics of other years," there is no doubt that the latest developments point to a more serious situation than the earlier figures indicated. Contrary to what happened in February, for example, the higher influenza deathrate, in March, was accompanied not only by a very considerable rise in pneumonia mortality, but by higher rates for the "degenerative" diseases and for puerperal conditions. It is now evident that we are experiencing a fairly general outbreak of influenza, which, while of above-average severity, cannot be compared at all with conditions during the major pandemics of 1918, 1919 and 1920. Influenza and influenzal pneumonia are causing death this year at about the same rate as in the outbreak of the early months of 1922. Conditions are by no means as serious as at this time in 1923. As in former relatively minor outbreaks of influenza, it is again evident that the above-average prevalence of this disease is, *per se*, entirely capable of raising the general deathrate very materially. This is true not only because influenza and pneumonia are so frequently the *direct* cause of death, but because they are hastening causes in the case of thousands of persons who suffer from chronic kidney disease or chronic heart disease. There is always a serious public health problem when epidemic influenza prevails, even though the type be relatively mild.

A new maximum for deaths from measles in any one month was reached in March with 318 deaths and a rate of 21.5 per 100,000; the nearest approach was in March, 1920, when the rate was 19.5. Whooping cough, as well as measles, showed a largely increased deathrate over both the preceding month and over March a year ago. Diphtheria and scarlet fever, on the other hand, continued to show improvement.

Tuberculosis, as is usual at this time of the year, recorded a higher rate than in February. The mortality from tuberculous disease was practically the same as in March a year ago.

Suicide and homicide increased slightly over the February figures, but recorded slight declines as compared with March, 1925. Automobile fatalities were fewer than for any month since February, 1925. Little significance attaches to this relatively low figure as weather conditions in March were unfavorable for the operation of motor vehicles and it is entirely possible that this is the sole reason for the decline in the deathrate.

The general deathrate for the large cities of the United States in March was 17.9 per 1,000. This is much higher than the figure for March, 1925 (14.8) and was also above the rate for February, 1926 (15.6). It was higher than for any March rate for the past six years. The diseases showing increased prevalence in March, as compared with February, were influenza, measles, poliomyelitis, smallpox, and whooping cough; there were fewer cases of diphtheria, malaria, scarlet fever, and typhoid fever. Compared with March, 1925, there was more sickness from influenza, measles, poliomyelitis, scarlet fever, smallpox, and whooping cough, with less diphtheria, malaria and typhoid fever.

Influenza cases increased in most of the states tabulated, more especially in Illinois, where the number of cases reported rose from 225 in February to 1,815 in March, and in Texas, where the corresponding increase was from 3,503 to 5,916. Reports indicate that in a number of communities both business and school work has been more or less seriously affected by absences due to influenza.

The prevalence of measles also increased in most of the states, although declines were recorded for several. In Kansas, 1,637 cases were recorded in March, as compared with 575 in February; and in Indiana, there were 6,938 March cases, against 4,973 in February. Unusually severe outbreaks were reported from Bloomington, Indiana; Columbus, Ohio, and Toledo, Ohio.

Smallpox increased slightly in March. In Seattle, Washington, vaccination was urgently recommended by the Health Department which gave free administrations of vaccine. Between January 1st and March 22d, 87 cases were reported in that city, of which 22 proved fatal.

The following table shows the mortality among Industrial policyholders for March, 1926; February, 1926; March, 1925; and for the year 1925.

METROPOLITAN LIFE INSURANCE COMPANY

Deathrates* per 100,000 for Principal Causes, Premium-paying Business in Industrial Department (Annual Basis)

MONTHS OF FEBRUARY, 1926; MARCH 1926, AND OF MARCH, 1925

CAUSES OF DEATH	RATE PER 100,000 LIVES EXPOSED*			
	Mar., 1926	Feb., 1926	Mar., 1925	Year 1925†
TOTAL—ALL CAUSES	1210.6	982.7	1045.2	906.9
Typhoid fever	2.4	2.6	2.4	4.6
Measles	21.5	13.0	3.5	3.3
Scarlet fever	4.7	4.6	6.2	3.5
Whooping cough	13.6	7.4	7.0	7.7
Diphtheria	9.2	9.6	11.7	10.6
Influenza	76.1	37.0	48.7	21.9
Tuberculosis (all forms)	115.2	98.3	115.5	98.0
Tuberculosis of resp'y system	100.4	87.3	101.2	85.8
Cancer	77.1	69.1	71.2	70.5
Diabetes mellitus	21.6	15.8	18.2	15.2
Cerebral hemorrhage	68.4	59.6	59.5	53.5
Organic diseases of heart	174.3	144.2	148.9	126.6
Pneumonia (all forms)	194.0	137.6	143.1	86.5
Other respiratory diseases	18.8	15.9	19.0	13.3
Diarrhea and enteritis	16.9	15.0	17.2	36.6
Bright's disease (chronic nephritis)	91.8	78.8	78.3	69.8
Puerperal state	17.4	14.5	19.5	16.5
Suicides	7.0	5.6	7.9	6.9
Homicides	6.5	4.9	6.6	7.2
Other external causes (excluding suicides and homicides)	55.7	52.4	53.5	64.2
Traumatism by automobiles	9.6	11.2	14.2	16.5
All other causes	218.3	196.8	207.2	190.5

*All figures include infants insured under one year of age.
†Based on provisional estimate of lives exposed to risk in 1925.

Correspondence on the subjects discussed in these BULLETINS may be addressed to: The Editor.

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Metropolitan Life Insurance Company,
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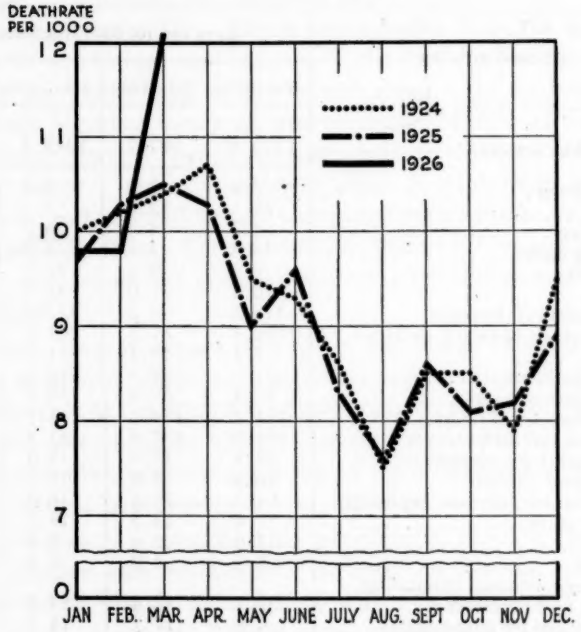
DEATHRATE PER 1000
in SPECIFIED MONTHS of
1924, 1925, 1926

METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT
(ANNUAL BASIS)



	1924	1925	1926		1924	1925	1926
JAN.	10.0	9.7	9.8	JULY	8.6	8.3	
FEB.	10.2	10.3	9.8	AUG.	7.5	7.6	
MAR.	10.4	10.5	12.1	SEPT.	8.5	8.6	
APR.	10.7	10.3		OCT.	8.5	8.1	
MAY	9.5	9.0		NOV.	7.9	8.2	
JUNE	9.3	9.6		DEC.	9.5	8.9	

NOTE: Figures include mortality of infants under one year of age.

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